Indonesian Journal of Islamic Economics Research
Availabe at http://e-journal.iainsalatiga.ac.id/index.php/ijier

Competitiveness and structural change in Salatiga economy

Mohammad Rofiuddin[1]*

[1]*Faculty of Islamic Economics and Business, IAIN Salatiga*

ARTICLE INFO

Keywords:
Competitiveness; structural change; shift-share estaban marquillas

ABSTRACT

The era of globalization has forced all regions at an increasingly strict and sharp level of competition, both directly and indirectly, both in the domestic and international markets. One approach to overcoming these challenges is through regional development that refers to increasing regional competitiveness as the basis for regional growth. The purpose of this study was to determine the leading sectors and shift in the share of economic sectors in Salatiga. The analytical method used in this research is the Estaban Marquillas *Shift-Share* (SS) analysis. The results showed that the sectors that had competitive advantages and specialization were as follows: (i) 2013, namely Water Supply, Waste Management, Waste and Recycling, Construction, Wholesale and Retail Trade; Car and Motorcycle Repair, Transportation and Warehousing, and Real Estate; (ii) 2017, namely the Provision of Accommodation and Food and Beverage, Corporate Services, and Educational Services. Besides that, in Salatiga City, it can be said that the economic structure has shifted, namely Agriculture, Forestry, and Fisheries; Processing industry; Electricity and Gas Procurement; Water Supply, Waste Management, Waste and Recycling; Construction; Wholesale and Retail Trade; Car and Motorcycle Repair; Transportation and Warehousing; Provision of Accommodation and Food and Drink; Real Estate; Company Services; Educational Services.

****

Daya saing dan perubahan Struktur Ekonomi di Salatiga. Era globalisasi telah memaksa seluruh daerah pada tingkat persaingan yang semakin ketat dan tajam, baik secara langsung maupun tidak langung, baik di pasar domestik maupun international. Salah satu pendekatan untuk mengatasi tantangan tersebut melalui pengembangan wilayah yang merujuk pada peningkatan daya saing daerah sebagai basis pertumbuhan daerah. Tujuan penelitian ini untuk mengetahui sektor unggulan dan pergeseran pangsa sektor-sektor ekonomi di Kota Salatiga. Metode analisis yang digunakan dalam penelitian ini yaitu analisis *Shift-Share* (SS) Estaban Marquillas. Hasil penelitian menunjukkan bahwa sektor yang memiliki keunggulan kompetitif dan spesialisai sebagai berikut: (i) Tahun 2013 yaitu Pengadaan Air, Pengelolaan Sampah, Limbah dan Daur Ulang, Konstruksi, Perdagangan Besar dan Eceran; Reparasi Mobil dan Sepeda Motor, Transportasi dan Pergudangan, dan Real Estate; (ii) Tahun 2017 yaitu Penyediaan Akomodasi dan Makan Minum, Jasa Perusahaan, dan Jasa Pendidikan. Selain itu di Kota Salatiga dapat dikatan mengalami pergeseran struktur ekonomi yaitu Pertanian, Kehutanan, dan Perikanan; Industri Pengolahan; Pengadaan Listrik dan Gas; Pengadaan Air, Pengelolaan Sampah, Limbah dan Daur Ulang; Konstruksi; Perdagangan Besar dan Eceran; Reparasi Mobil dan Sepeda Motor; Transportasi dan Pergudangan; Penyediaan Akomodasi dan Makan Minum; Real Estate; Jasa Perusahaan; Jasa Pendidikan.

How to cite:
Rofiuddin, M. (2019). Competitiveness and structural change in Salatiga economy. *Indonesian Journal of Islamic Economics Research, 1*(1), 25-36.

* Corresponding Author. *mohammad.rofiuddin @iainsalatiga.ac.id*

1. Introduciton

Development is essentially a process of reshuffle in the structure of economic balance found in a society, therefore it impacts on its progress in the sense of improving the standard of living of the people and improving the quality of life in the community concerned (Sukirno, 2006). In simple terms development can be understood as a process of change to create conditions for people to be able to live their lives in accordance with the passion of the times. Finally, the goal of the development process is the creation of prosperity, therefore the development is carried out in many ways, especially economic development.

Economic development is one of the efforts to improve the welfare of the community by increasing and equitable distribution of community income (Sukanto, 2009). In its implementation, economic development refers to the development of leading sectors, especially in sectors that absorb a lot of labor and have export orientation. In addition, the technology supporting capacity and human resource enhancement sector are to strengthen the foundation of sustainable development and increase competitiveness and orientation to economic globalization. In this era of globalization, all regions are faced with increasingly strict and sharp competition, both directly and indirectly, both in the domestic and international markets. This condition requires appropriate efforts to improve the quality of regional superior potential, human resources, and natural resources which are a danger in their implementation. One approach to overcoming these challenges is through regional development that refers to increasing regional competitiveness as the basis for regional growth (Sukanto, 2009).

The development of areas which have an orientation on community welfare must be carried out by means of sustainable development. One of the parameters can be used in the concept of sustainable cities is the level of *competitiveness*. The better the level of competitiveness of an area, the better the level of community welfare (Huda & Santoso, 2014). In addition, in developing (economic) areas, increasing competitiveness is one factor. Because regional competitiveness reflects the ability of the economy and regional (local) communities to provide improved living standards for their residents (Robingatun, Hayati, & Indrayati, 2014).

In its development in accordance with Law No. 22 of 1999 concerning Regional Government, the centralist system was replaced by the regional autonomy system. These conditions provide flexibility in each region to regulate their regions, including in determining sectors/commodities are prioritized for future development. Sectors/commodities are having advantages become very important to know, and these conditions require the ability of the region to see it. Because it is expected that the sector which has advantages and better prospects to be developed and can further encourage other sectors to develop (Sapriadi & Hasbiullah, 2015).

Efforts to achieve regional economic development goals require a major policy that makes every effort so that regional development priorities are in accordance with the potential exists in each region. This is because each region has different potential, even though the regions are close to one another. This condition is in line with the opinion of Arsyad (2010), the main problem in regional development lies in the emphasis on development policies based on the uniqueness of the region concerned (*endogeneous depelovment*) by using the potential of human resources, institutions, and physical resources locally (regional)

Gross regional domestic product (GRDP), which is one of the parameters of the regional economy. The better the condition of the regional economy, can reflect the level of welfare of the people in the area is better. That is because the regional economy is one of the competitiveness variables needs special emphasis on sustainable regional development. The regional economy conditions can be described in Table 1.

Table 1. Salatiga City Economic Growth in 2011-2017 (Percent)

No	Sectors	2011	2012	2013	2014	2015	2016	2017
1	Agriculture, Forestry, and Fishery	2.15	1.69	2.76	3.60	4.79	2.50	2.58
2	Mining and Excavation	-9.36	-5.51	-9.22	-5.13	-4.32	-0.02	-0.03
3	Processing Industry	10.13	8.80	8.32	6.49	4.36	3.84	3.63
4	Electricity, Gas Supply	3.58	10.18	7.85	6.04	-0.11	6.37	3.63
5	Water Supply	1.95	-0.98	0.27	1.58	0.75	1.59	2.99
6	Construction	2.19	3.66	8.47	3.76	5.15	7.29	5.09
7	Wholesale and retail trade, repair and maintenance of automobile and motorbikes	8.87	1.48	5.24	3.80	3.43	4.50	6.46
8	Transportation and Warehousing	4.43	7.55	10.75	9.01	9.42	3.56	5.87
9	Provision of Accommodation and Food and Drink	6.46	4.89	2.21	8.23	7.66	6.72	6.64
10	Information and Communication	9.07	3.15	5.52	6.14	4.50	7.19	7.34
11	Financial Services	3.30	3.65	3.55	2.61	6.81	9.02	6.69
12	Real Estate	5.47	7.57	7.60	6.68	7.05	6.94	6.17
13	Company Services	3.40	10.05	1.96	15.86	8.10	9.59	9.18
14	Defense and Mandatory Social Security	2.16	0.15	1.31	-0.02	4.80	2.45	2.30
15	Educational Services	9.94	17.65	8.55	9.66	6.73	7.11	9.35
16	Health Services and Social Activities	4.78	12.69	3.24	14.99	6.53	7.64	4.58
17	Other Services	4.58	3.85	1.94	7.72	2.91	5.83	9.30

Source : Statistics of Salatiga Municipality, 2019

In addition to the regional economy, the labor force is also an indicator of human resources who contribute to the improvement of regional development. Because development is a multidimensional process involving human change, social structure, community attitudes and national institutions, where the development process combines economic, political and social aspects (Razmi, Abbasian, & Mohammadi, 2012). The labor force conditions in Salatiga City are as shown in Table 2.

Table 2. Salatiga Employment in 2011-2017

Region	2011	2012	2013	2014	2015	2017
Jawa Tengah Prov.	17,026,107	17,513,488	17,524,022	17,547,026	17,298,925	18,010,612
Magelang Ccty	65,991	64,324	63,880	64,382	61,060	62,775
Surakarta city	263,562	278,535	287,511	275,191	284,076	271,527
Salatiga city	90,689	93,736	94,405	92,268	90,174	104,989
Semarang city	845,868	846,076	854,170	889,295	888,066	963,496
Pekalongan city	143,545	148,322	142,797	151,553	149,507	157,445
Tegal city	113,343	114,446	129,119	119,475	120,665	124,736

Source: Statistics of Salatiga Municipality, 2019

Table 3. Salatiga Unemployment in 2011-2017

Region	2017	2015	2014	2013	2012	2011	2010
Jawa Tengah Prov.	823,938	863,783	996,344	1,054,062	982,093	1,203,342	1,046,883
Magelang Ccty	4,193	3,927	4,754	4,313	5,782	7,596	8,226
Surakarta city	12,133	12,877	16,957	20,763	17,513	20,295	22,575
Salatiga city	**4,155**	**5,794**	**4,119**	**5,863**	**6,415**	**8,183**	**8,345**
Semarang city	63,700	51,229	68,978	51,423	50,831	64,720	71,499
Pekalongan city	7,958	6,131	8,210	7,546	11,374	11,563	10,165
Tegal city	10,215	9,723	10,995	12,028	10,017	11,072	17,839

Source : Statistics of Salatiga Municipality, 2019

The city of Salatiga needs special attention to improve its economic conditions. If the government of Salatiga City has properly understood its economic potential and is able to make good use of it, then the Gross Regional Domestic Product can increase, which is also followed by economic growth which has also increased. Under these conditions, the Salatiga City must review the potential can be superior in the area. This is not separated because the regional economic potential is one indicator of competitiveness of a region.

Analyzing the economic potential of Salatiga City in the context of developing economic sectors is needed, namely by knowing in advance the leading sectors can improve the regional economy. The possibility of shifting the share of economic sectors, also needs to get serious attention from the government. This is important to be performed as a basis for economic development planning in the Salatiga City. Broadly based on the explanation, research objectives can be formulated, as the following: (i) To find out the superior sector; and (ii) To find out shifts in the share of economic sectors in Salatiga City.

2. Literature Review

The Concept of Regional Competitiveness

Regional competitiveness based on the UK Ministry of Trade and Industry (UK-DTI) is the ability of a region to generate high income and employment opportunities while remaining open to domestic and international competition. Meanwhile the *Center for Urban and Regional Studies* (CURDS) defines regional competitiveness as the ability of the business sector or companies in an area to generate high income and a more equitable level of wealth for its population (Abdullah, 2002).

Comparative Advantage and Competitive Advantage.

The term of *comparative advantage* was originally stated by David Ricardo, the main review was trade between regions. Ricardo proved that if two regions trade with each other concentrate on exporting goods having a comparative advantage, then both regions will get benefit (Tarigan, 2010).

In the era of globalization, the thought experienced development, competitive advantage received relatively large attention compared to comparative advantage. Competitive advantage indicates the ability of regions to market their products outside the region. In regional economic analysis, competitive advantage is interpreted by the ability of the competitiveness of economic activities in one region against the same economic activity in other regions.

Leading Sector

Leading sector is a sector, which can be developed further and aims to enhance economic growth in a region. Leading sector is formed from the development of production generated by the potential of the region. The leading sector is also not only able to meet demand from within the region, but also able to meet demand from outside the region. It is said that the superior sector if the sector has

advantages both comparatively and competitively (Erawati & Yasa, 2012). Leading sectors can be used as a motivator in accelerating economic growth in each region.

Shifting Economic Structures

Theory of structural change (*structural change theory*) is a theory explains about the transformation of the economic structure of the agricultural sector (traditional) to a more modern structure and has services sector and a more resilient manufacturing industry sector (Todaro, 2010).

Structural transformation is also called economic structure change. Structural transformation is a series of changes in which each of these changes has links between each other in several compositions of foreign trade (exports and imports), aggregate deCmand, aggregate supply (production and factors of production usage), such as the use of labor and capital). According to Kuznets, structural transformation is caused by a process of economic growth and sustainable economic development (Jhingan, 2016).

The Development of Leading Sector as a Regional Development Strategy

According to Arsyad (2010), the main problem in regional development lies in the emphasis on development policies based on the specific characteristics of the region (*endogenous depelovment*) by using the potential of human resources, institutions, and physical resources locally (regional). This orientation leads to taking initiatives coming from the region in the development process to create employment opportunities and stimulate economic improvement.

Economic development with reference to leading sectors in addition to having an impact on accelerating economic growth will also affect fundamental changes in economic structure. According to Ratnasari (2014), the leading sector is a sector or economic activity has better potential, performance and prospects compared to other sectors therefore it is expected to be able to motivate other derivative economic business activities, in order to create regional development independence. Leading sector can also be interpreted as a sector that can motivate economic growth in the surrounding area as indicated by the parameters; 1) The contribution of the economic sector to the regional economy is quite high, 2) The sector which has a high *multiplier effect*, 3) The sector which has abundant deposit content, and 4) Has a fairly good *added value* potential.

The determination of leading sectors is important as a basis for regional development planning in accordance with the current era of regional autonomy, where regions have the opportunity and authority to make policies in line with regional potential in order to accelerate regional economic development to increase the prosperity of the society.

According to Rachbini (2001), there are four conditions for a particular sector to become a priority sector, namely; 1) The sector must produce products have a large enough demand, therefore the growth rate develops quickly as a result of the demand effect. 2) Because there is a change in technology was adopted creatively, the new production function shifts with wider capacity development. 3) There has to be an increase in investment returns from the production results of the priority sectors, both private and government. 4) The sector must develop, therefore it can influence other sectors.

3. Research Method

This type of research is quantitative descriptive, that is research describes the economic structure and knows the potential competitiveness of the region or leading sectors. While the type of data used is secondary data obtained from the Central Statistics Agency (BPS) in Salatiga City and Central Java Province. The data used include Salatiga City GRDP and Central Java Province GRDP in 2010, 2013 and 2017.

The analytical method used to analyze changes in economic structure and competitiveness occurred in Salatiga City uses Estaban Marquillas *Shift-Share* analysis, which is a derivative of the classic *Shift-Share*.

Classic *Shift Share* Analysis

Shift share analysis divides growth as a change (D) of the variable employment in the region within a certain time period into the effect of national growth (N), industry mix (M), and competitive advantage (C). The effect of national growth is called the *share* effect. The effect of the industry mix is called *proportional shift* and the effect of competitive advantage is called *differential shift*, which why it is called *shift share* analysis. The classic *shift-share* equation is formulated as follows (Abidin, 2015; Stimson, Stough, & Roberts, 2006):

$$D_{ij} = N_{ij} + M_{ij} + C_{ij} \text{ atau } D_{ij} = Y^*_{ij} - Y_{ij}$$

$$N_{ij} = E_{ij}.\ r_n$$

$$M_{ij} = E_{ij}\ (r_{in} - r_n)$$

$$C_{ij} = E_{ij}\ (r_{ij} - r_{in})$$

Where r_{ij}, r_{in} and r_n representing the growth rate of the province (regional) and national (or level above).

$$r_{ij} = (E^*_{ij} - E_{ij}) / E_{ij}$$

$$r_{in} = (E^*_{in} - E_{in}) / E_{in}$$

$$r_n = (E^*_n - E_n) / E_n$$

Note:

D_{ij} : Changes in the variable absorption of GRDP sector i in region j in a certain period of time.
N_{ij} : Components of national growth in sector i in the region j
M_{ij} : Industrial mix in sector i in region j
C_{ij} : Competitive advantage in sector i in region j
E_{ij} : GRDP in sector i in Salatiga City area
E_{in} : GRDP in sector i in the level of Central Jawa Province
E_n : GRDP in the level of Central Jawa Province
Superscript * refer to the GRDP of the year of analysis.

In detail the classic *shift-share* equation for sector i at

$$D_{ij} = E_{ij}.\ r_n + E_{ij}\ (r_{in} - r_n) + E_{ij}\ (r_{ij} - r_{in})$$

Criteria of Assessment:

If $M_{ij} > 0$ then growth in sector i is fast in the Salatiga City area
If $M_{ij} < 0$ then growth in sector i is slow in the Salatiga City area
If $C_{ij} > 0$ means that sector i in Salatiga City has good competitiveness compared to sector i in other regions.
If $C_{ij} > 0$ means that sector i in Salatiga City cannot compete well compared to other regions

Analisis Shift Share Esteban Marquillas

In 1972, Esteban Marquillas modified the classic *Shift share* analysis technique by redefining the position of competitive advantage as the third component of the classic *shift share* technique and

creating a fourth *shift share* component, namely the effect of allocation (A_{ij}). The results of Esteban Marquillas's modification of the classic *shift share* analysis can be formulated as follows (Abidin, 2015; Hermanto, 2000)

$$D_{ij} = N_{ij} + M_{ij} + C'_{ij} + A_{ij}$$

Note :

D_{ij} : changes in the variable of employment absorption in sector i in region j over a certain period of time.

N_{ij} : components of national growth (province) in sector i in region j

M_{ij} : industrial mix in sector i in region j

C'_{ij}: competitive advantage in sector i in region j

A_{ij} : effect of allocation in sector i in region j

Redefining of the third component, namely competitive advantage, given the C_{ij} notation is changed to C'_{ij}. C'_{ij} measures the competitive advantages or disadvantages in sector i in region j. The revised competitive advantage equation is as follows:

$$C'_{ij} = E'_{ij} (r_{ij} - r_{in})$$

Esteban Marquillas included the element of *homothetic employment* in sector i in region j given E'_{ij} notation in the equation of competitive advantage. *Homothetic employment* denoted E'_{ij} is formulated as follows:

$$E'_{ij} = E_{ij} (E_{in} / E_n)$$

Note :

E'_{ij} : *homothetic employment* in sector i in region j

In addition to redefining the competitive advantage component, Esteban Marquillas also created a new component, namely the effect of allocation as the fourth *shift share* component. The composition of the influence of this allocation according to Esteban Marquillas is an unexplained part of the change in variables of an area in the classic *shift share*. The effect of allocations for sectors in an area is formulated as follows:

$$A_{ij} = (E_{ij} - E'_{ij}) (r_{ij} - r_{in})$$

Note :

A_{ij} : Describe the effect of allocation for sector i in region j

$(E_{ij} - E'_{ij})$: Describe level of specialization sector i in region j

$(r_{ij} - r_{in})$: Describe level of competitive advantage sector i in region j.

A_{ij} is part of the influence of traditional competitive advantage which shows the specialization of sector *i* in region *j*. A_{ij} represents the difference between labor absorption in sector i in region j and employment in sector i in region j if the structure of employment in the region is the same as absorption of national labor. Therefore, the esteban marquillas *shift share* formula can be written in detail (Marquillas, 1972).

$$D_{ij} = E_{ij}\, r_n + E_{ij} (r_{in}-r_n) + E'_{ij}(r_{ij}-r_{in}) + (E_{ij}-E'_{ij}) (r_{ij}-r_{in})$$

The allocation effect has two possibilities, positive and negative, which in detail has the possibilities or evaluation criteria presented in Table 4.

Table 4. Assessment criteria of Esteban-Marquillas modified *shift share* analysis

No	Effect Allocation A_{ij}	Component $(E_{ij}-E'_{ij})$	$(r_{ij}-r_{in})$	Note: Competitive advantages	Note: Specialization
1	-	>0	<0	√	X
2	+	<0	<0	X	X
3	-	<0	>0	X	√
4	+	>0	>0	√	√

Source:(Abidin, 2015; Hermanto, 2000)

4. Result and Discussion

The results of the analysis conducted by observing deviations from various economic performance comparisons between regions, the competitive advantage of a Salatiga City can also be identified through the *Shift-Share* analysis technique.

Table 5. Analysis of Estaban Marquillas Shift Share 2013

No	Sector*	Nij	Mij	C'ij	Aij	Dij
1	Agriculture, Forestry, and Fishery	53,961.99	-23,724.88	-23,822.66	15,528.74	21,943.19
2	Mining and Excavation	789.69	-344.83	-39,560.45	38,056.72	-1,058.88
3	Processing Industry	267,137.84	28,655.08	230,500.74	-46,646.34	479,647.32
4	Electricity, Gas Supply	2,283.16	1,548.03	-284.15	-370.77	3,176.28
5	Water Supply	1,052.83	-985.04	8.23	2.02	78.03
6	Construction	141,210.82	-21,779.54	5,294.35	2,160.84	126,886.46
7	Wholesale and retail trade, repair and maintenance of automobile and motorbikes	145,520.41	-10,218.22	7,167.15	141.26	142,610.60
8	Transportation and Warehousing	30,239.23	9,984.63	4,049.33	169.86	44,443.05
9	Provision of Accommodation and Food and Drink	74,958.66	-1,814.56	-3,635.87	-5,690.85	63,817.37
10	Information and Communication	37,299.14	25,685.24	-18,171.46	-2,735.17	42,077.75
11	Financial Services	36,018.29	-9,861.37	-1,918.68	-657.36	23,580.89
12	Real Estate	49,279.94	11,472.71	1,613.87	3,174.52	65,541.04
13	Company Services	9,604.29	8,486.68	-2,549.21	-6,273.22	9,268.54
14	Defense and Mandatory Social Security	64,316.69	-41,808.17	-3,986.31	-4,347.07	14,175.14
15	Educational Services	33,914.25	73,291.36	-18,496.24	-6,147.90	82,561.47
16	Health Services and Social Activities	12,082.94	9,539.81	-2,997.41	-2,682.85	15,942.49
17	Other Services	10,446.30	-2,289.97	-2,047.17	634.29	6,743.46
	Total	970,116.46	55,836.98	131,164.04	-15,683.28	1,141,434.20

Note: * Basic year of calculation 2010

From the results of the classic *shift share* analysis in Table 5 and Table 6, it shows that: The sector has the highest performance (Dij) with the highest positive value in the City of Salatiga in 2010-2013 and in 2013-2017 namely the Processing Industry; Wholesale and retail trade; Car and Motorcycle Repair; and Construction. While the three sectors had the lowest Dij values in 2010-2013 and 2013-2017 were Mining and Excavation; Electricity and Gas Supply; and Water Supply, Waste Management, Waste and Recycling.

Table 6. Analysis of Estaban Marquillas Shift Share in 2017

No	Sector*	Nij	Mij	C'ij	Aij	Dij
1	Agriculture, Forestry, and Fishery	79,957.89	-50,318.44	58,623.93	-39,178.96	49,084.43
2	Mining and Excavation	852.21	612.74	-68,573.11	66,765.32	-342.85
3	Processing Industry	481,299.34	-37,288.03	-41,003.99	6,021.51	409,028.83
4	Electricity, Gas Supply	3,900.89	-509.44	-255.39	-297.42	2,838.64
5	Water Supply	1,479.37	-553.39	-387.90	-83.97	454.12
6	Construction	225,240.46	31,571.32	-22,981.76	-8,828.84	225,001.18
7	Wholesale and retail trade, repair and maintenance of automobile and motorbikes	234,844.75	-8,299.05	-28,266.58	-53.39	198,225.74
8	Transportation and Warehousing	52,212.22	18,562.70	-984.93	-35.14	69,754.85
9	Provision of Accommodation and Food and Drink	118,749.03	37,537.68	4,805.50	7,005.59	168,097.80
10	Information and Communication	61,466.98	76,850.37	-62,072.88	-2,530.23	73,714.24
11	Financial Services	55,428.07	13,927.24	-2,496.38	-738.47	66,120.46
12	Real Estate	83,502.28	29,409.12	-1,830.00	-3,537.42	107,543.98
13	Company Services	15,466.56	11,977.13	2,021.53	4,010.50	33,475.72
14	Defense and Mandatory Social Security	92,541.45	-46,598.72	-3,273.05	-3,265.84	39,403.84
15	Educational Services	66,094.53	36,200.88	3,425.13	674.44	106,394.98
16	Health Services and Social Activities	20,444.53	16,525.29	-1,917.07	-1,413.63	33,639.13
17	Other Services	16,053.64	6,648.23	-4,603.12	1,565.70	19,664.46
	Total	1,609,534.22	136,255.65	-169,770.07	26,079.76	1,602,099.55

Note: * Basic year of calculation 2013

The influence of regional growth (Nij) of Central Java Province has a positive effect on economic growth in the City of Salatiga. The Nij value also shows in detail that all sectors have a positive contribution to the Salatiga City's gross regional domestic product. The 3 (three) Sectors had the highest Nij values in 2010-2013 and 2013-2017 were Manufacturing; Wholesale and retail trade; Car and Motorcycle Repair; and Construction. While the three sectors have the lowest Nij values in 2010-2013 and 2013-2017 are Mining and Excavation; Electricity and Gas Supply; and Water Supply, Waste Management, Waste and Recycling.

The industrial mix component (Mij) stated the effect of sector growth due to the industrial mix. The 3 (three) sectors which influence the highest industrial mix and have a positive value in the City of Salatiga in 2010-2013 are the Processing Industry; Information and Communication; and Education Services, and in 2013-2017 namely Information and Communication; Provision of Accommodation and Food and Drink; and Education Services. While the three sectors have the lowest Mij values in 2010-2013 are Government Administration, Defense and Mandatory Social Security; Agriculture, Forestry, & Fisheries; and Construction, in 2013-2017 namely Agriculture, Forestry, and Fisheries; Government Administration, Defense and Mandatory Social Security, Processing Industry.

The economic sector with competitive advantage (Cij) is the highest competitive 3 (three) highest positive in the City of Salatiga in 2010-2013, namely the Processing Industry; Construction; and Wholesale and Retail Trade; Car and Motorcycle Repair, 2013-2017, namely the Provision of

Accommodation and Food and Drink; Agriculture, Forestry, and Fisheries; and Company Services. While the three sectors have the lowest Cij values in 2010-2013 are Education Services; Information and Communication; and Provision of Accommodation and Food and Beverage, 2013-2017 namely Information and Communication; Processing industry; and Construction.

Table 7. *Allocation Effect* of Salatiga City in 2013

No	Sector	(Eij-E'ij)	(rij-rin)	Aij	specialised	competitive advantages
1	Agriculture, Forestry, and Fishery	-608780.06	-0.03	15528.74	X	X
2	Mining and Excavation	-120422.93	-0.32	38056.72	X	X
3	Processing Industry	-408389.81	0.11	-46646.34	X	√
4	Electricity, Gas Supply	7788.42	-0.05	-370.77	√	X
5	Water Supply	1248.61	0.00	2.02	√	√
6	Construction	246619.76	0.01	2160.84	√	√
7	Wholesale and retail trade, repair and maintenance of automobile and motorbikes	16947.77	0.01	141.26	√	√
8	Transportation and Warehousing	7335.50	0.02	169.86	√	√
9	Provision of Accommodation and Food and Drink	275591.56	-0.02	-5690.85	√	X
10	Information and Communication	29403.19	-0.09	-2735.17	√	X
11	Financial Services	55381.88	-0.01	-657.36	√	X
12	Real Estate	196858.73	0.02	3174.52	√	√
13	Company Services	41149.43	-0.15	-6273.22	√	X
14	Defense and Mandatory Social Security	202159.99	-0.02	-4347.07	√	X
15	Educational Services	50978.99	-0.12	-6147.90	√	X
16	Health Services and Social Activities	34387.21	-0.08	-2682.85	√	X
17	Other Services	-28258.23	-0.02	634.29	X	X

Based on Table 7, sectors have competitive and specialized advantages are: Water Supply, Waste Management, Waste and Recycling, Construction, Wholesale and Retail; Car and Motorcycle Repair, Transportation and Warehousing, and Real Estate.

Table 8. *Allocation Effect* of Salatiga City in 2017

No	Sector	(Eij-E'ij)	(rij-rin)	Aij	*specialised*	*competitive advantages*
1	Agriculture, Forestry, and Fishery	-699345.54	0.06	-39178.96	X	√
2	Mining and Excavation	-136625.92	-0.49	66765.32	X	X
3	Processing Industry	-359629.27	-0.02	6021.51	X	X
4	Electricity, Gas Supply	9110.64	-0.03	-297.42	√	X
5	Water Supply	1142.75	-0.07	-83.97	√	X
6	Construction	271370.87	-0.03	-8828.84	√	X
7	Wholesale and retail trade, repair and maintenance of automobile and motorbikes	1921.74	-0.03	-53.39	√	X
8	Transportation and Warehousing	7808.09	0.00	-35.14	√	X
9	Provision of Accommodation and Food and Drink	305752.31	0.02	7005.59	√	√
10	Information and Communication	10450.40	-0.24	-2530.23	√	X
11	Financial Services	54927.70	-0.01	-738.47	√	X
12	Real Estate	238893.50	-0.01	-3537.42	√	X
13	Company Services	44638.94	0.09	4010.50	√	√
14	Defense and Mandatory Social Security	200637.62	-0.02	-3265.84	√	X
15	Educational Services	47201.42	0.01	674.44	√	√
16	Health Services and Social Activities	37667.10	-0.04	-1413.63	√	X
17	Other Services	-35922.34	-0.04	1565.70	X	X

Based on Table 8, sectors have competitive advantages and specialization are Provision of Accommodation and Food and Beverage, Corporate Services, and Educational Services.

Table 9. Changes in the Structure of the Allocation Effect in Salatiga City

No	Sector	2013		2017		perubahan
		specialised	*competitive advantages*	*specialised*	*competitive advantages*	
1	Agriculture, Forestry, and Fishery	X	X	X	√	√
2	Mining and Excavation	X	X	X	X	X
3	Processing Industry	X	√	X	X	√
4	Electricity, Gas Supply	√	X	√	X	X
5	Water Supply	√	√	√	X	√
6	Construction	√	√	√	X	√
7	Wholesale and retail trade, repair and maintenance of automobile and motorbikes	√	√	√	X	√
8	Transportation and Warehousing	√	√	√	X	√
9	Provision of Accommodation and Food and Drink	√	X	√	√	√
10	Information and Communication	√	X	√	X	X
11	Financial Services	√	X	√	X	X
12	Real Estate	√	√	√	X	√
13	Company Services	√	X	√	√	√
14	Defense and Mandatory Social Security	√	X	√	X	X
15	Educational Services	√	X	√	√	√
16	Health Services and Social Activities	√	X	√	X	X
17	Other Services	X	X	X	X	X

Based on Table 9, it can be explained that the sectors have experienced structural changes in Salatiga City as seen from the allocation effect component which includes specialization and competitive advantage, namely Agriculture, Forestry, and Fisheries; Processing industry; Electricity and Gas Supply; Water Supply, Waste Management, Waste and Recycling; Construction; Wholesale and retail trade; Car and Motorcycle Repair; Transportation and Warehousing; Provision of Accommodation and Food and Drink; Real Estate; Company Services; Educational Services.

5. Conlusions

Based on the results of the analysis, it can be concluded that the sectors have competitive and specialized advantages are as follows: (i) 2013, namely Water Supply, Waste Management, Waste and Recycling, Construction, Wholesale and Retail Trade; Car and Motorcycle Repair, Transportation and Warehousing, and Real Estate; (ii) 2017 namely Provision of Accommodation and Food and Beverage, Corporate Services, and Educational Services; (iii) Changes in economic structure occur in dominant sectors, except Mining and Quarrying; Information and Communication; Financial Services and Insurance; Government Administration, Defense and Mandatory Social Security; Health Services and Social Activities; Other services.

6. References

Abdullah, P. (2002). *Daya saing daerah : konsep dan pengukurannya di Indonesia. Lampiran : peta peringkat daya saing antarpropinsi di Indonesia*. Yogyakarta: BPFE.

Abidin, Z. (2015). An Application of the Shift Share Analysis for Transformation of the Agricultural Sector in Economic Areas at South East Sulawesi. *Informatika Pertanian*, *24*(2), 165–178.

Arsyad, L. (2010). *Pengantar Perencanaan Pembangunan Ekonomi Daerah* (2nd ed.). Yogyakarta: BPFE.

Erawati, N. K., & Yasa, I. N. M. (2012). Analisis Pola Pertumbuhan Ekonomi dan Sektor Potensial Kabupaten Klungkung. *E-Jurnal Ekonomi Dan Bisnis Universitas Udayana*, *1*(1), 41–61. Retrieved from https://ojs.unud.ac.id/index.php/EEB/article/view/3207

Hermanto. (2000). Analisis Spesialisasi Regional Propinsi Kalimantan Tengah. *Jurnal Ekonomi Dan Studi Pembangunan*, *1*(1), 45–71.

Huda, M., & Santoso, E. B. (2014). Pengembangan Daya Saing Daerah Kabupaten/Kota di Propinsi Jawa Timur berdasarkan Potensi Daerahnya. *Jurnal Teknik POMITS*, *3*(2), C81–C86. https://doi.org/10.12962/j23373539.v3i2.7207

Jhingan, M. L. (2016). *Ekonomi pembangunan dan perencanaan*. Jakarta: RajaGrafindo Persada.

Marquillas, E. J. (1972). Reintropretation of Shift Share Analysis. *Regional and Urban Economics*, *2*(3), 249–261.

Rachbini, D. J. (2001). *Pembangunan ekonomi dan sumber daya manusia*. Jakarta: Gramedia Widiasarana Indonesia.

Ratnasari, D. E. (2014). Sectors Analysis and Determination Of Gdp Forming Leading Sector In District Kebumen. *Jurnal Fokus Bisnis*, *13*(1), 1–29.

Razmi, M. J., Abbasian, E., & Mohammadi, S. (2012). Investigating the Effect of Government Health Expenditure on HDI in Iran. *Journal of Knowledge Management, Economics and Information Technology*, *2*(5), 1–8.

Robingatun, R., Hayati, R., & Indrayati, A. (2014). Daya Saing Wilayah dan Sektor Unggulan Sebagai Penentu Pusat Pertumbuhan Baru Orde II Di Kabupaten Purworejo. *Geo-Image*, *3*(1).

Sapriadi, S., & Hasbiullah, H. (2015). Analisis Penentuan Sektor Unggulan Perekonomian Kabupaten Bulukumba | Sapriadi | Jurnal Iqtisaduna. *Jurnal Iqtisaduna*, *1*(1), 71–86. https://doi.org/https://doi.org/10.24252/iqtisaduna.v1i1.1155

Stimson, R. J., Stough, R., & Roberts, B. H. (2006). *Regional economic development : analysis and planning strategy*. Springer.

Sukanto, S. (2009). Alisis Daya Saing Ekonomi Antar Daerah Di Provinsi Sumatera Selatan. *Journal of Economics & Development Policy*, *7*(2), 86–102.

Sukirno, S. (2006). *Ekonomi Pembangunan: Proses, Masalah, Dasar Kebijakan*. Jakarta: Kencana Prenada Media Group.

Tarigan, R. (2010). *Ekonomi Regional: Teori dan Aplikasi*. Jakarta: Bumi Aksara.

Todaro, M. P. (2010). *Pembangunan ekonomi di dunia ketiga*. Jakarta: Erlangga.